

537,503
Rec'd PCT/PTO 03 JUN 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



10/537503



(43) International Publication Date
24 June 2004 (24.06.2004)

PCT

(10) International Publication Number
WO 2004/054022 A2

(51) International Patent Classification⁷: H01M 8/00

(21) International Application Number:
PCT/US2003/039037

(22) International Filing Date: 5 December 2003 (05.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/431,051 5 December 2002 (05.12.2002) US
60/445,681 6 February 2003 (06.02.2003) US

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(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

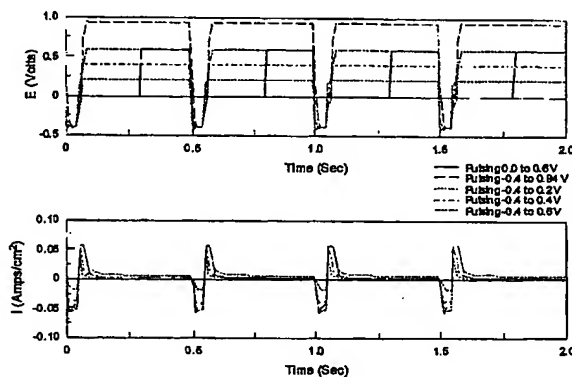
(84) Designated States (regional): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished
upon receipt of that report

[Continued on next page]

(54) Title: METHODS OF REMOVING SULFUR FROM A FUEL CELL ELECTRODE



Voltage and current waveforms for Methanol showing that negative
pulsing delivers the most current.

(57) Abstract: A method of optimizing a waveform of an electrical current applied to an electrode includes the steps of: applying an electrical current to an electrode of a device; determining a waveform of the voltage or the current of the electrical current; representing the waveform by a mathematical description such as a number of points or an analytical function characterized by a number of unknown coefficients and a fixed number of known functions; measuring a function of the device associated with the application of the electrical current; feeding the waveform description and the measurements to an algorithm, which may be in a computer program or other calculating device including manual calculations, including an optimization routine which uses the points or coefficients as independent variables for optimizing the function of the device; and performing the calculations to determine values of the points or coefficients which optimize the function of the device, and thereby determine an optimized waveform of the electrical current to be applied to the electrode of the device. The application of the electrical current is effective to remove a sulfur contaminant from the electrode.

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